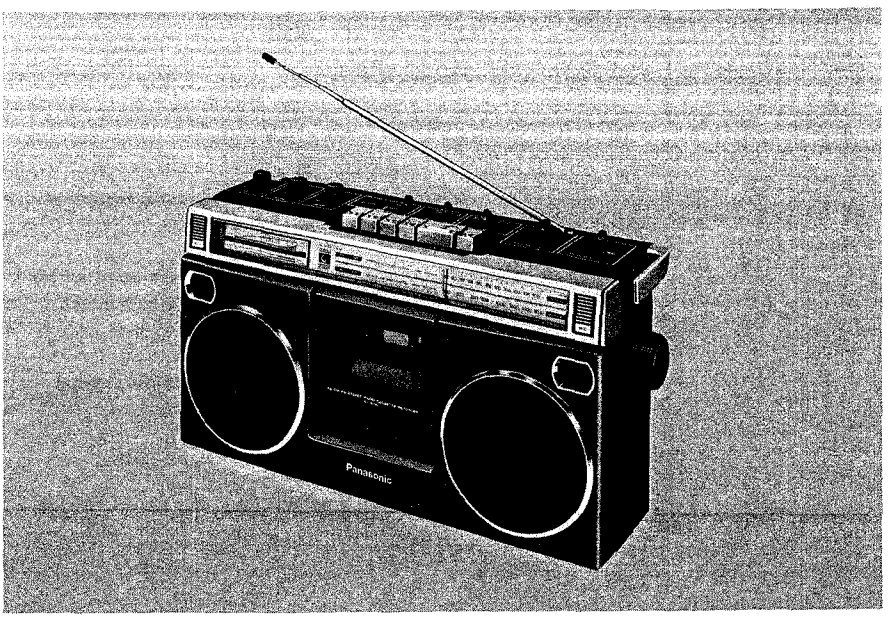
Operating Instructions

Radio Cassette Recorder

MODEL NO. RX-5090



Panasonic®

Before operating this set, please read these instructions completely.

Thank you very much for selecting this Panasonic Radio Cassette Recorder. For correct use of this unit, please read these Operating Instructions carefully.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

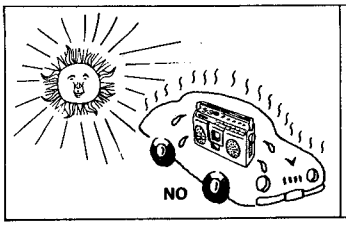
Caution: Operation at a voltage setting higher than 125V AC may require the use of a different AC plug.
Please contact either a local or foreign Panasonic authorized servicenter for assistance in selecting an alternate plug adaptor.

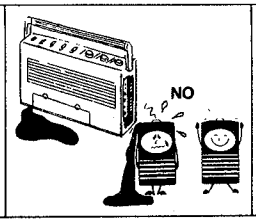
The serial number of this product may be found on the label affixed to the inside of the battery compartment.
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid in identification in the event of theft.

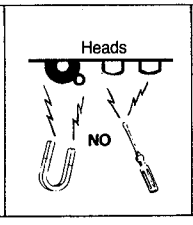
MODEL NUMBER: RX-5090, SERIAL NUMBER:_____

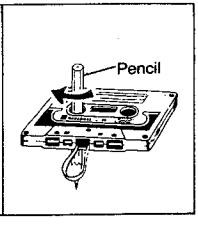
PRECAUTIONS

1. Avoid using or placing this tape recorder near sources of high temperature. Be especially careful not to allow this unit to remain in an automobile which is in the sunlight for a long time with the doors and windows closed.
2. If this model is not used for a long time (one month or more), or if it is operated on from AC power for a long time, be sure to remove the batteries. If they are not removed, liquid may leak from them and damage the tape recorder.
3. If chromium-dioxide (CrO_2) tape is used with this unit, it may damage the head.
4. Always be sure to press the Stop Button before removing or inserting a cassette into the unit.
5. Do not bring magnetic or metallic items, such as a screwdriver, near the heads, beitems will cause poor performance.
6. Absolutely never lubricate this unit, because to do so may result in operation malfunctions.
7. Turn a pencil in the direction of the arrow in order to correct tape looseness.







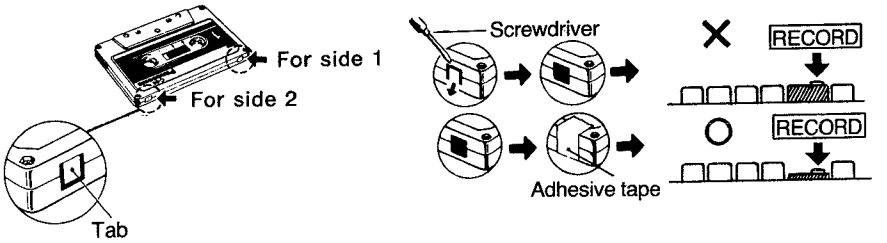


RECORD-PREVENT DEVICE

The tape cassette contains plastic tabs (as illustrated) to prevent recording on an already-recorded tape cassette. The tab moves the record interlock of this unit and permits the Record Button to be depressed. Recordings can be made only when the tab is intact.

There is one tab for each side (track) of the tape. If it is necessary to preserve a valuable recording in the cassette, the tab(s) should be broken with a small screwdriver.

If, for some reason, you want to record on a track for which the tab has already been broken, use adhesive tape to cover the tab(s) and record in the usual manner.



MAINTENANCE

The head assembly, Capstan, and Pressure Roller are in constant contact with the tape. If these parts are dirty, the sound quality will decrease. Clean these parts as shown below.

Cleaning the Recording/Playback Head

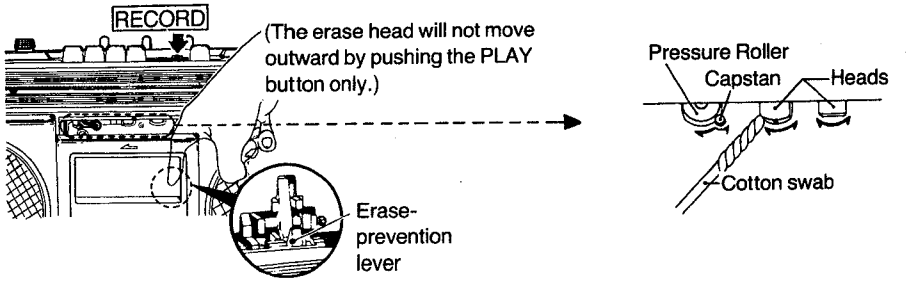
1. Push the Stop Button to change the unit to the stop condition.
2. Push the Ejection Button, open the Cassette Holder and push the Playback Button. The Recording/Playback Head and the Pressure Roller then move outward. Clean them with a cotton swab or a piece of wood wound with a soft cloth.

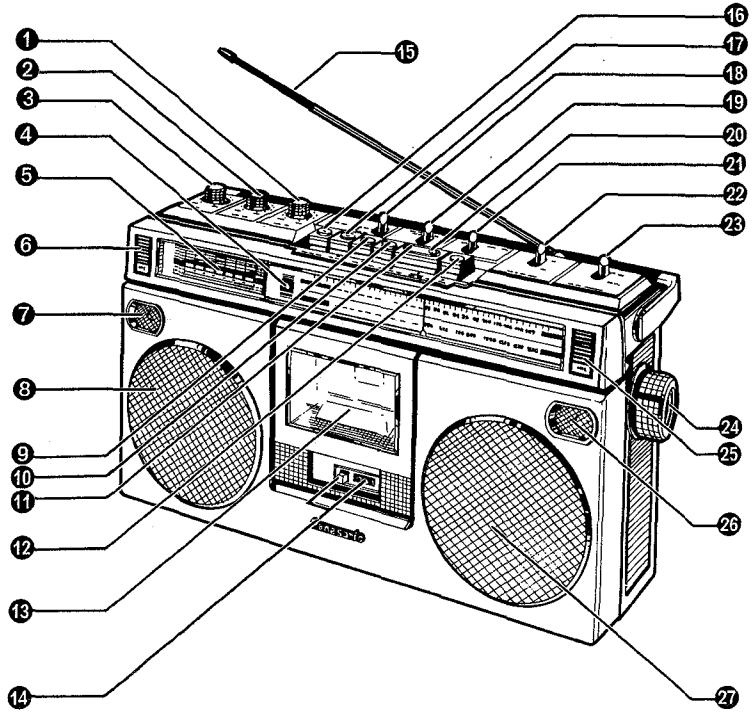
Cleaning the Erase Head

1. Depress the Ejection Button, open the Cassette Holder and, while pushing the Erase-Prevention Lever (see the figure) located inside the cassette holder, push the Record Button.
2. Then the Erase Head moves outward, and can be cleaned in the same way as described above.

Notes:

- If the heads are extremely dirty, clean them with a cloth dampened with little alcohol.
- Don't bring articles of metal or magnetic material, such as a screwdriver, near the head assembly.
- Don't clean the plastic cabinet with benzine or thinner. Clean it with a soap solution.

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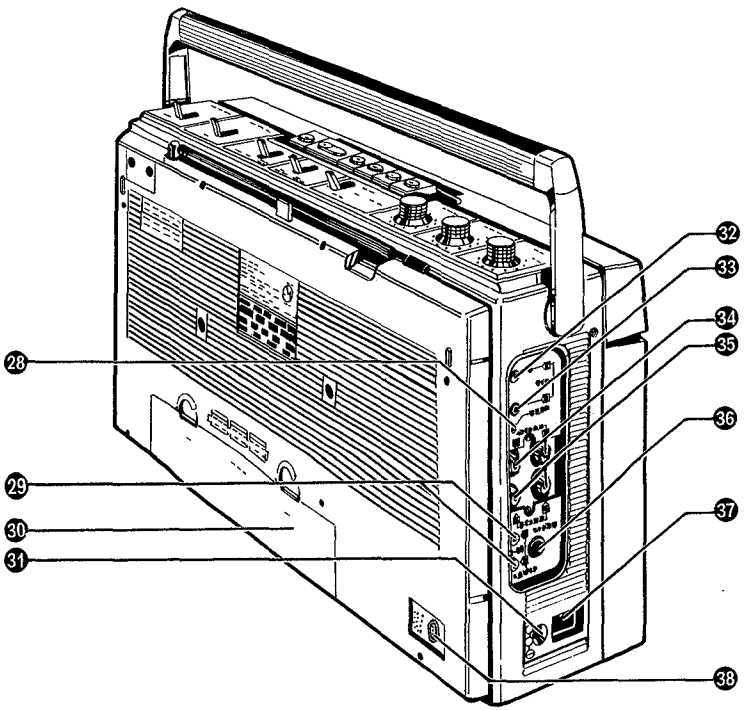
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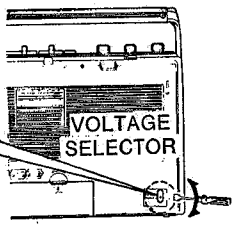
CONTROLS

❶ Volume Control (VOLUME)
❷ Balance Control (BALANCE)
❸ Tone Control (TONE)
❹ FM Stereo Eye (FM STEREO)
❺ LED Meter (LEVEL•TUNING/BATTERY)
❻ ㉕ Built in Microphone (MIC)
❼ ㉖ Tweeter Speaker
❽ ㉗ Woofer Speaker
❾ Fast Forward/Cue Button (◀◀ FF/CUE)
❿ Rewind/Review Button (▶▶ REW/REVIEW)
⓫ Playback Button (▶ PLAY)
⓬ Pause Button (❚❚ PAUSE)
⓭ Cassette Compartment Cover
⓮ Tape Counter and Reset Button
⓯ Telescopic Antenna
⓰ Ejection Button (EJECT)
⓱ Stop Button (■ STOP)
⓲ Function Selector (SLEEP•RADIO•→ OFF TAPE)
⓳ Input Selector/Play Mixing Switch [INPUT (LINE•MIC), PLAY MIX (OFF•ON)]
⓴ Record Button (○ RECORD)
㉑ Mode Selector/Beat Proof Switch [MODE (STEREO•MONO), BEAT PROOF (❚ •❚❚)]
㉒ Band Selector [BAND SELECTOR (FM•AM)]
㉓ Meter Selector Switch [METER SELECTOR (LEVEL•TUNING/BATTERY)]
㉔ Tuning Control (TUNING)
㉘ Remote Control Jack (REMOTE)
㉙ External Speaker Jacks [EXT SP (L•R) 3~8Ω]
㉚ Battery Compartment
㉛ Car Battery Input Jack [DC IN 9V (⊖-⊃-⊕)]
㉜ ㉝ Microphone Jacks [MIC (L•R)]
㉞ Line Input Jacks [LINE IN (L•R)]
㉟ Line Output Jacks [LINE OUT (L•R)]
㊱ Headphones Jack (HEADPHONES)
㊲ AC Connection Socket (AC IN)
㊳ Voltage Selector

VOLTAGE ADJUSTMENT

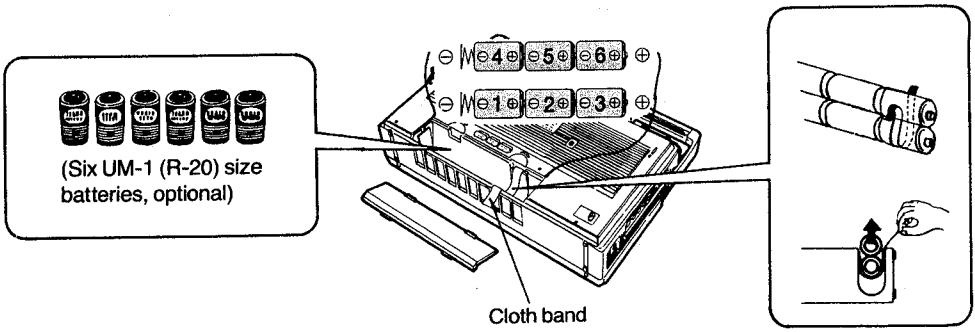
SETTING OF VOLTAGE SELECTOR	100 ≀V 110 — 100–110V	115 ≀V 127 — 115–127V	200 ≀V 220 — 200–220V	230 ≀V 250 — 230–250V
LOCAL VOLTAGE	AC 100, 105, 110V 50–60 Hz	AC 115, 117, 120, 125V 50–60 Hz	AC 200, 210, 220V 50–60 Hz	AC 225, 230, 240, 250V 50–60 Hz



POWER SOURCE

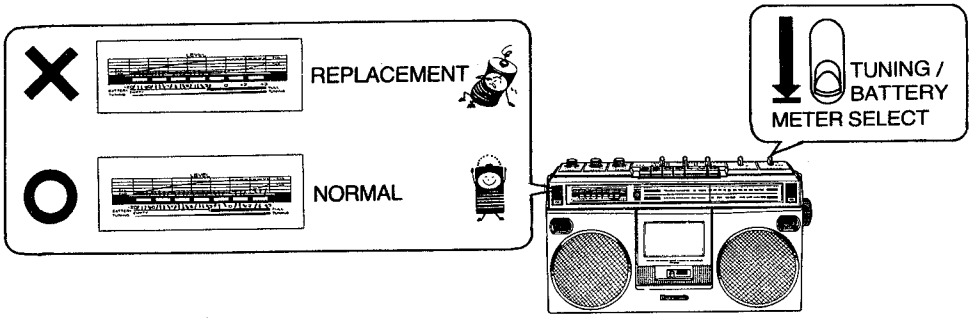
■ Batteries (DC power)

1. Open the Battery Compartment Cover and insert six UM-1 (R-20) batteries, being careful to place them for correct plus (+) and minus (−) polarity, as indicated in the Battery Compartment.
2. When the batteries are inserted, they should be placed on top of the red band in the Battery Compartment in order to facilitate later removal of the batteries.



●Battery life

When the batteries are flat, the tape speed will slow down markedly, the sound will be distorted, and you will not be able to turn the volume up high.
Set the Meter Selector Switch to the "TUNING/BATTERY" position and depress the Playback Button. If fewer than 4 LEDs light up as in the figure, it means it is time to replace all the batteries with new ones.



Note:

When the Function Selector and the other switches are being used, the LEDs may light up.
This does not, however, indicate that anything is wrong with the model.

■ AC Power

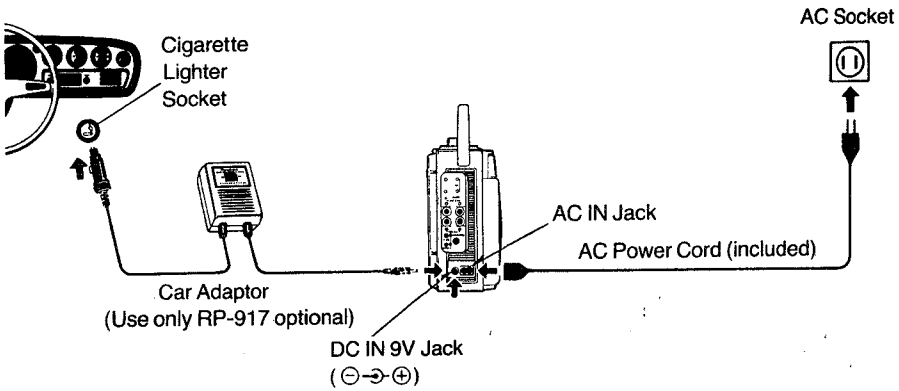
Connect one end of the AC power cord (included) to the AC Connection Socket of this unit, and connect the other end to an electrical outlet.

Note:

- Be sure to disconnect the AC power cord from the AC Connection Socket (AC IN) of this unit when using batteries as the power source. Disconnecting it only from the electrical outlet is not sufficient. If it is not also disconnected from the AC Connection Socket of this unit, batteries cannot be used as the power source.

■ Automobile battery

To use an automobile battery as the power source, connect the Panasonic Car Adaptor RP-917 (sold separately) between the Car Battery Input Jack of this unit and the cigarette lighter receptacle of the automobile.



TO LISTEN TO THE RADIO

1. Set the Function Selector to the "RADIO" position.
2. Set the Band Selector to either "FM" or "AM" position.
3. Set the Meter Selector Switch to the "TUNING/BATTERY" position.
4. Set the Mode Selector to the "STEREO" or "MONO" position.
   If FM stereo broadcasts cannot be received satisfactorily (the stereo eye flickers on and off, excessive noise is heard, etc.) in a place where signals are weak (far from the broadcast station, in a concrete building, etc.), set the Mode Selector to the "MONO" position.
   The broadcast cannot then be heard in stereo, but it will be easier to hear.
5. Set the Volume Control to the preferred position and tune in the station, making sure that as many LEDs as possible come on and that the sound quality is optimum.
6. The volume can be adjusted with the Volume Control, the tone quality can be adjusted with the Tone Control, and the left and right balance can be adjusted with the Balance Control.
7. The radio can be turned off by setting the Function Selector to the "OFF" position.

Notes:

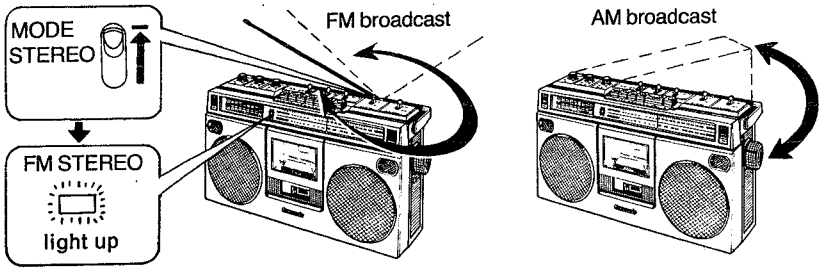
- All of the 7 LEDs may not light up together or even if they all light up they may flicker in locations which are distant from the broadcasting stations or which are positioned between concrete buildings so that the signals are received only with difficulty. Conversely, the 7 LEDs may all remain on in locations which are located close to the broadcasting station or where the signals are very strong.
- During FM stereo reception, not all of the 7 LEDs may come on even when the FM Stereo Eye is on. This indicates that the signals are strong. Conversely, all 7 LEDs may come on when the FM Stereo Eye is not on. This indicates that the station is not tuned in properly.

●FM antenna

To listen to FM broadcasts, extend the Telescopic Antenna to the most suitable length. Reception volume may be improved by turning the antenna to face in a different direction.

●AM antenna

This unit has a highly sensitive built-in ferrite antenna for reception of AM broadcasts, and no other antenna should be necessary under normal reception conditions. Note, however, that reception may be improved slightly by turning the radio to face in a different direction.



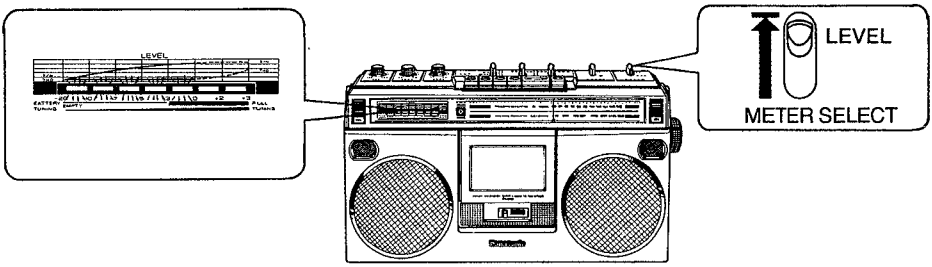
Notes:

- Be sure to re-insert the Telescopic Antenna before raising or lowering the carrying handle. Do not apply excessive force when handling the antenna because to do so may damage it.
- Note that touching the Telescopic Antenna during reception of an AM broadcast may cause noise. This does not indicate an abnormality of the radio, however.

PLAYBACK

- Set the Play Mixing Switch to the "OFF" position unless you plan to perform playback mixing.

1. Push the Ejection Button to open the Cassette Compartment Cover.
2. Holding the cassette so that the part where the tape can be seen is upward, insert the cassette and then close the Cassette Compartment Cover.
3. Set the Function Selector to the "TAPE" position.
4. Set the Mode Selector to the "STEREO" or "MONO" position.
5. Push the Playback Button.
   When the Meter Selector Switch is set to the "LEVEL" position, the LED meter indicates the playback level, and when it is at the "TUNING/BATTERY" position, it indicates the battery strength when the model is being powered by batteries.



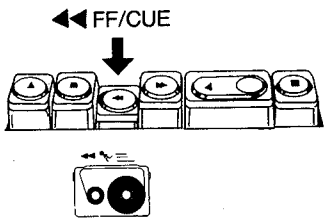
6. Adjust, if necessary, the volume, the tone, and the left and right sound balance.
7. To stop the playback, push the Stop Button.
   (The power will be turned off.)
8. By pushing the Ejection Button, the Cassette Compartment Cover can be opened. The cassette can then be removed or turned over.

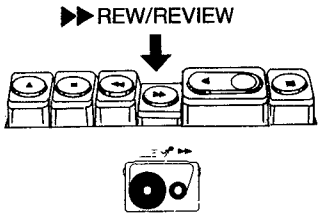
Note:
Do not push the Record Button during tape playback, because recorded sounds will be erased.

■ Fast forward and rewind

The tape can be rapidly moved forward (to the left) by pushing the Fast Forward/Cue Button.
The tape can be rapidly rewound (to the right) by pushing the Rewind/Review Button.

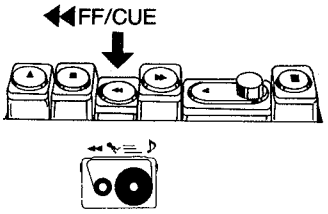
Note:
Do not push the Playback Button during fast forward or rewind, because the tape may become tangled; be sure to first push the Stop Button.

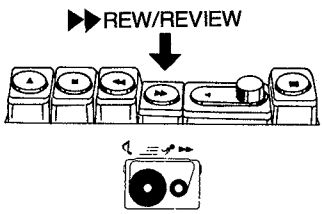




■ "Cue" and "Review"

If, during playback, the Fast Forward/Cue Button (or the Rewind/Review Button) is lightly pushed, the tape will be fast forwarded (or rewound), and tape sounds can be heard (although garbled) from the speaker as long as the button is pushed. If the button is pushed completely in, no sound will be heard. When the button is released, the tape will resume playback.





Note:
If the Fast Forward/Cue Button or the Rewind/Review Button is pushed during recording, the Record Button will return to its original position.

■ Automatic stop

When the tape reaches its end during playback or recording, tape recorder controls will return to their original positions and the power will be automatically turned off.

Notes:
- Even if the Playback Button is pushed after the automatic-stop system operates during playback or recording, the button will not function. To continue to use the cassette, therefore, it must be rewound, or removed and turned over.
- If the Function Selector is set to the "RADIO" position while a recording is being made from the radio, note that the automatic-stop system will function to stop the tape movement when the tape reaches its end, but that the power will not be turned off. If you want the power also to be turned off when the automatic-stop system functions, set the Function Selector to the "SLEEP" position before beginning the recording.

RECORDING(Easy-Matic recording)

■ Recording through the Built-in microphones

1. Set the Function Selector to the "TAPE" position.
2. To record in stereo, set the Mode Selector to the "STEREO" position. For a monaural recording, set it to the "MONO" position.
3. Set the Input Selector to the "MIC" position.
4. Set the Meter Selector Switch to the "LEVEL" position.
5. Depress the Pause Button.
6. Depress the Record Button.
   The LED Meter indicates the recording level.
7. The recording can be started by pushing the Pause Button.
8. Push the Stop Button to stop the recording. (The power will be turned off.)

Notes:

- When recording through the Built-in Microphones, make no connections to jacks. (To do so will cause the Built-in Microphones to be disconnected.)
- If, when recording through the Built-in Microphones, a "howling" sound (a high-pitched squeal) is heard from the speakers, reduce the volume level by turning the Volume Control.

- When the Built-in Microphones are faced toward the sound source to make a stereo recording note that the left and right sounds of the sound sorce will be reversed when the tape is played back.

■ To record radio broadcasts

1. Set the Function Selector to the "RADIO" position, and then follow the same procedure as described in steps (2) through (6) of the section "TO LISTEN TO THE RADIO".
2. Follow the same procedure as described in steps (4) through (7) of the section "Recording through the Built-in Microphones".
3. Push the Stop Button to stop the recording.
4. The radio can be turned off by setting the Function Selector to the "OFF" position.

■ Beat Proof

- When an AM broadcast is being recorded, the Beat-Proof Switch (BEAT PROOF) can be used to reduce unwanted "beat" signals and noise: set the switch to whichever position best reduces such noises.

■ MONITORING

"Monitoring" is to listen, through the Built-in Speakers, headphones, or external speakers, to the sound as it is being recorded. Sound can be monitored in the following way:

- When recording from the radio, the sound being recorded can be monitored through the Built-in Speakers, headphones, or external speakers.
- When recording from a sound source connected to the Microphone Jacks or Line-Input jack, the sound being recorded can be monitored through the Built-in Speakers, headphones, or external speakers.
- To prevent "howling" (a high-pitched squeal) when recording through the Built-in Micorphones, sound cannot be monitored through the Built-in Speakers (or external speakers) or headphones during recording.
- To monitor when using an external microphone, use headphones.
  If neccessary to adjust the volume level of the sound being monitored, do so by using the Volume Control.

Note:

If external microphones are placed too close to the speakers in this unit, a high-pitched squeal may be heard. If so, place the microphones as far away from the speakers as possible, or reduce the volume.

■ To record from a TV, external amplifier or external microphones

1. Make connections in the way described in figure of next page.
2. Set the Function Selector to the "TAPE" position. Subsequent steps are the same as discribed in the section "RECORDING".

Notes:

- When recording with only one external microphone, or from a telephone, another tape recorder, a TV or another radio, the sound will be picked up only from the side (left or right) corresponding to the Microphone Jack to which the external microphone or other sound source is connected. Sound will enter the Built-in Microphone of the other side and will become mixed with the sound from the connected sound source, resulting in recorded sound which is not satisfactory.
  To prevent this, connect the erase plug to the other Microphone Jack (the one not being used), and set the Mode Selector to the "MONO" position.
- A recording can be made from any radio, TV, etc, if it has a jack for an earphone or for a speaker.
- If the TV set is the AC-power, vacuum-tube type and has no power transformer, connect TV connection cord RP-013A (optional) in order to prevent electric shock.
- If the volume level of the radio or TV is too loud during recording, the recorded sound will be distorted. Set the volume of the radio or TV to the usual listening level.
- If the Input Selector is set the "LINE" position, recordings cannot be made from sources connected to the Microphone Jacks.
- If the Input Selector is set to the "MIC" position, recordings cannot be made from a stereo amplifier.
- After setting the Volume Control to its minimum position, adjust the volume and tone of the stereo amplifier.
- When using the Function Selector, you may hear a clicking noise through the speaker. Therefore, always set the volume control on the stereo amplifier to its leftmost position before moving this switch.

■ Stereo recording with external microphones

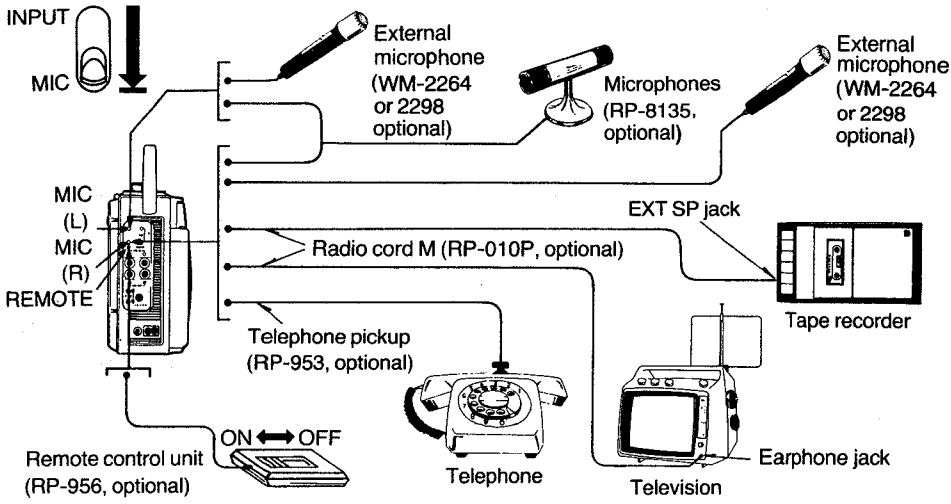
Place two uni-directional microphones in positions which are at an angle of from 90° to 180° as desired, in order to pick up separate sound with each microphone.
In order to increase the stereo effect of the recording, the two microphones should be separated, although the sound in the center between them will be weak if they are too far apart. If, however, they are placed too close together, the stereo effect will be reduced.

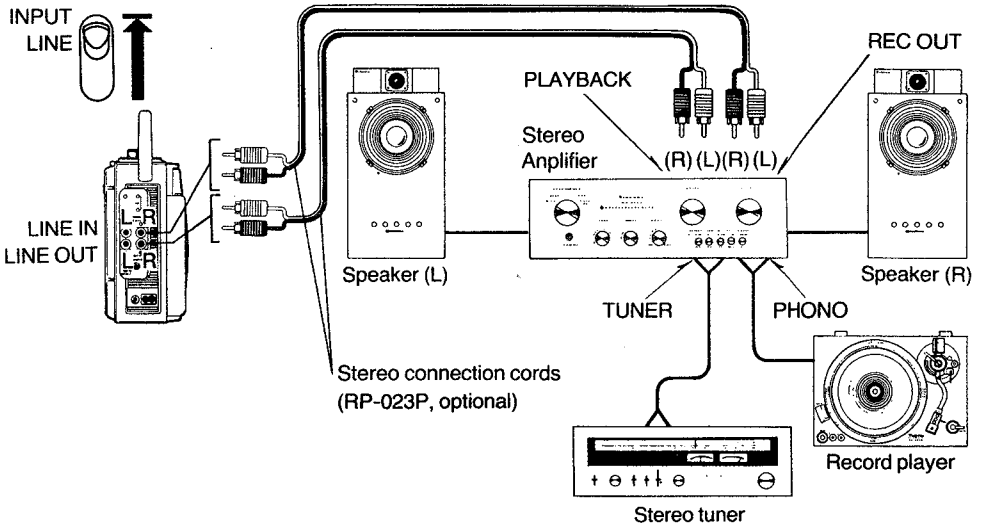
Note:

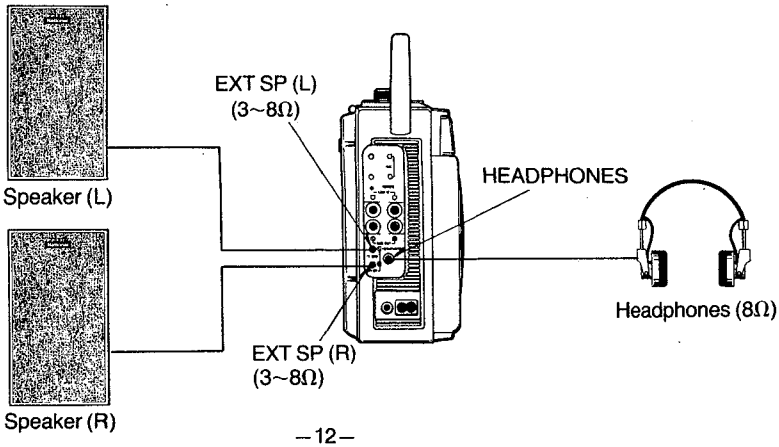
Use two microphones which both have the same specifications and the same performance.

Notes:

- Some audio material is copyrighted. Recordings of such material must be limited to personal use.
- It is illegal to record telephone conversations unless all persons being recorded are advised beforehand.


INPUT
MIC
External microphone (WM-2264 or 2298 optional)
Microphones (RP-8135, optional)
External microphone (WM-2264 or 2298 optional)
MIC (L)
MIC (R)
REMOTE
EXT SP jack
Radio cord M (RP-010P, optional)
Tape recorder
Telephone pickup (RP-953, optional)
ON ⟷ OFF
Remote control unit (RP-956, optional)
Telephone
Television
Earphone jack


INPUT
LINE
REC OUT
PLAYBACK
Stereo Anplifier
(R) (L) (R) (L)
LINE IN
LINE OUT
Speaker (L)
Speaker (R)
TUNER
PHONO
Stereo connection cords (RP-023P, optional)
Record player
Stereo tuner


EXT SP (L) (3~8Ω)
HEADPHONES
Speaker (L)
Headphones (8Ω)
EXT SP (R) (3~8Ω)
Speaker (R)

■ Automatic radio power turn-off

(To listen to the radio before going to sleep)

The automatic-stop system of this unit can be used as a kind of "timer" to turn off the radio at the desired time.

- This system is convenient to turn off the electric power to the unit even though the listener may fall asleep.
- This system can be used for both tape playback and for recording.

1. Set the Function Selector to the "SLEEP" position.
2. **For playback**
   Insert the cassette and begin playback. Note that, even though the tape is being played back, the sounds on the tape, if any, will not be heard; only the radio broadcast will be heard.
   For recording
   Insert the cassette, tune to the radio broadcast and begin recording.
3. The radio broadcast will be heard (or the recording will be made) only so long as the tape is moving. When the tape reaches its end, the automatic-stop system functions, the Playback Button (or the Playback Button and the Record Button, if recording) returns to its original position, and the electric power is automatically turned off.
   Refer to the table below for the cassette to be used for various time durations before this automatic turn-off occurs.

Cassette	One-way time
RT-30 (C-30)	15 minutes
RT-60 (C-60)	30 minutes
RT-90 (C-90)	45 minutes

PRODUCT SERVICE

Should your Panasonic product ever require service, refer to the Directory of Authorized Panasonic Servicenters enclosed with this producct or contact your Panasonic dealer for detailed instructions.

SERIAL NUMBER: Located on the label affixed to the inside of the battery compartment.